

Self Medication Practices of Reproductive Age Group Women in Thiruvananthapuram District, South India: A Questionnaire – Based Study

M.G. Sangeetha Nair¹, T.P. Rajmohan², and J. Kumaran^{3*}

¹Department of Pharmacology, SUT Academy of Medical Sciences, Thiruvananthapuram, Kerala, India.

²College of Pharmaceutical Sciences, Govt. Medical College, Thiruvananthapuram, Kerala, India.

³P.S. College of Nursing, Thalakulam, Kanyakumari District – 629 802, Tamil Nadu, India

Abstract-

Objective: To assess the prevalence of self medication practice among the women of reproductive age group and the identification of various socio-demographic variables influencing self medication practice. **Study Design:** A community-based cross-sectional descriptive study was conducted from September 2008 to March 2009 among the women in the age group of 15 to 49 years in the Sreekariyam, situated in Thiruvananthapuram District, Kerala, South India. Simple random sampling was done to choose the study population.

Methods: By using a semi-structured questionnaire, the study was carried out on 250 respondents residing rural and urban area of Sreekariyam. Socio-demographic data, information regarding the type of medication, illness for which the medication was used and what are the sources of health information was collected by direct interview method and analysed by using statistical package for the social sciences (SPSS) software.

Results: Majority of respondents, (59.2%) were aged between 35-49 years, 54% were residing in urban area, 68% were married, 42% were housewives, 29.6% were studied up to high school level and 37.2% belonged to low income category. 138 respondents were engaged in self medication. Health magazines and health workers were the important sources of health information. Head ache, dyspnoea and leg pain were the common health problems. Analgesics and antipyretics were commonly used. Old prescription was the most important source of self medication.

Conclusion: Though the study population was educated and having good awareness with excellent health care facilities, the self medication practice was found to be prevalent in the study area. The results of the study emphasize the need for comprehensive measures including information, training, legislation and education at all levels to rationalize the drug therapy. A similar study with larger sample size and pharmacy based epidemiological studies are necessary for further investigations in the future.

Key words: Self medication, Women, Reproductive age group.

1. INTRODUCTION

Self medication is obtaining and consuming drugs without the advice of a physician for diagnosis, prevention or treatment of disease [1]. World Self Medication Industry (WSMI) has defined, self medication as the treatment of common health problems with medicines especially designed and labelled for use without medical supervision and approved as safe and effective for such use [2]. According to World Medical Association (WMA), the medicinal products can generally be divided into two separate categories: prescription and non-prescription medicines. This classification may differ from country to country. Prescription medicines are those which are only available to individuals on prescription from a physician following a consultation. Prescription medicines are not safe for use except under the supervision of a physician because of toxicity, other potential or harmful effects, the method of use, or the collateral measures necessary for use. Non prescription or over the counter (OTC) medicines refer to medicines that can be purchased legally without the prescription from the doctor [3]. Self-medication with OTC medicines is sometimes referred to as 'responsible' self-medication to distinguish this from the practice of purchasing and using a prescription medicine without a doctor's prescription. This is irresponsible and potentially even dangerous 'self-prescription' and has no place in responsible self-medication. A positive and responsible attitude towards self-medication is spreading throughout the world. There is a demand by consumers for more information and particularly for reliable sources of information about healthcare in general and medicines in

particular [4]. A person may seek advice from an older person in the household who possesses the knowledge of simple remedies for common illnesses or with a pharmacist because they can provide a good help to assess the symptoms and spend time explaining how to use the medication properly. Otherwise one may purchase an OTC medicine based on a previous personal experience or medical recommendation [5]. Product labels are a good source of information for the consumer and should always be easily accessible. Leaflets included with OTC medicines also can be another important information source, although the readability of some is poor. Advertising appears to have a limited impact with respect to overall OTC medicine use. Advertising of OTC medicines appear in a variety of media including television, newspapers, magazines, leaflets, and direct mail. The rapid development of new technology especially the internet and related communication systems has opened up new possibilities of searching for information. This may eventually offer important new channels for the dissemination of knowledge on medicinal products, their characteristics and proper use in self-medication, although the quality of information may vary [6].

In recent years there has been an alarming trend in self-medication with non-prescription drugs available in pharmacies and in retail outlets. In parallel, many drugs previously restricted to prescription only status are being reclassified as pharmacy only status and hence are becoming available over the counter to patients. The deregulation process has been championed by the pharmaceutical industry, the pharmacy profession and

government health policy makers and is supported by the view that patients wish to have a greater role in their treatment choices [7]. Increasing the range of drugs available over the counter increases the risks of interactions and adverse reactions and of self-treatment being undertaken when medical aid should have been sought [8]. A recent survey found that 31% Indians practice self medication. Conditions in India encourage proliferation of inappropriate drug consumption. On the supply side government has encouraged the expansion of pharmaceutical industry. Market forces favours the growth of small drug shops in urban and sub urban areas which compete for business and are enticed by the incentives of pharmaceutical companies to push their products for substantial rewards. In Kerala, the focus of present study, there were over 180 allopathic production units in 1998, twice as that in 1990. On the demand side, it is well documented that medicines in India are attributed powers beyond their active ingredients. The public at once desires the fast relief that strong allopathic medicines deliver which in turn leads to unintended use of medicines [9]. Self medication has a number of risks. The ordinary user will have no specialized knowledge of the principles of pharmacology or therapy, or of the specific characteristics of the medicinal product. This may leads to various potential risks for the individual customer. At the community level, improper self-medication could result in an increase in drug induced diseases and in wasteful public expenditure. To avoid or reduce the dangers of self medication to a great extent, people should be educated about the dangers of indiscriminate use of drugs. The physicians should be more judicious in prescribing, and must insist on drugs being supplied by the chemist only on a valid prescription. Moreover a proper statutory "drugs control" must be implemented, rationally restricting the availability of drugs to the public [7]. Self medication practice itself has turned out to be a social evil globally which had taken lives of many, even above the HIV mortality rate. The effect of such a practice may be severe in the women of reproductive age group.

Self medication practice, a new silent epidemic has now become a serious health issue to the society. There has been relatively little systematic research on self medication, partly due to the perception that misuse or abuse of OTC drugs is not as problematic as other types of drug abuse. While there is extensive literature available on the use of OTC preparations generally, less is available about their use in reproductive age group. Further research is needed to explore the prevalence of use and effects of these preparations in pregnancy and neonatal outcomes [10]. With this view the preset study was undertaken to know the prevalence of self medication in this particular age group and the influence of various socio-demographic variables affecting this practice.

2. METHODS

A community-based cross-sectional descriptive study was conducted from September 2008 to March 2009 among the women in the age group of 15 to 49 years in the Sreekariyam, situated in Thiruvananthapuram District, Kerala. The Sreekariyam was one of the town panchayat,

recently included in the Thiruvananthapuram city corporation limit and it having both urban and rural locations with variety of agricultural cultivations. The study was carried out on 250 respondents, using a semi structured interview schedule. Simple random sampling was done to choose the study population. The respondents were classified based on age group such as 15 - 24, 25 - 34 and 35 - 49, based on the place of residence such as urban and rural, based on the marital status such as married, unmarried, divorced and widow, based on the educational status such as professional, degree, higher secondary, high school and primary, based on the occupation such as office, daily wages, professional, house wife, student and others, based on the monthly income such as below 1000 rupees, 1001 - 7000 rupees, and above 7000 rupees. After getting necessary approval from institutional ethical committee, the data was collected from January - 2009. The respondents were interviewed in their homes. They often had difficulty in recalling precisely the drug use. In many cases, we crosschecked with the medicine packets, tablet strips or medicine bottles kept by the respondents. Socio-demographic data, information regarding the type of medication, illness for which the medication was used and what are the sources of health information was collected. Information was collected by direct interview method. The data obtained was analysed by using statistical package for the social sciences (SPSS) software.

3. RESULTS

A community-based cross-sectional descriptive study was conducted from September 2008 to March 2009 among the women in the age group of 15 to 49 years in the Sreekariyam, situated in Thiruvananthapuram District, Kerala. Two hundred and fifty respondents were covered during the study period. Semi structured interview schedule was the tool used to collect the data. Informations were collected by direct interview method

56 of 250 respondents (22.4%) were aged between 15 to 24 years. 46 of 250 respondents (18.4 %) were aged between 25 to 34 years. The majority of study population 148 of 250 respondents (59.2 %) were aged between 35 to 49 years. 135 out of 250 respondents (54%) were living in urban area and the rest 46% were residing in rural area. Among the study population 68% (170 respondents) were married, 25.2% (63 respondents) were unmarried, 6.4% (16 respondents) were widow and one candidate (0.4 %) was divorcee. Most of the subjects under study, 105 respondents (42%) were house wives, 42 respondents (16.8%) were students, 36 respondents (14.4%) were office workers, and 22 respondents (8.8%) were professional. Rests, 16 respondents (6.4%) were daily wage workers and others were 29 respondents (11.6%). The analysis of educational status revealed that all respondents were literate. Among them 74 respondents (29.6%) were studied up to high school level. Higher secondary and degree status individually constituted 67 respondents (26.8%) of total sample population. 9.2% (23 respondents) were professionals and the rest 7.6% (19 respondents) had education up to primary school level. In the total sample population, 93 respondents (37.2%) had a monthly income below 1000 rupees, 80 respondents (32%) were come under

the category of monthly income between rupees 1000 to 7000 and the remaining 77 respondents (30.8%) had an income above 7000 rupees monthly.

Among the study population, majority (41.6%) depended on health magazines as the primary source of health information. 33.2% depended on health workers and 24.4% relied on friends for health information. 17.2% considered advertisements as the main source and 13.6% obtained information from family doctor. Internet and other resources were used by a minority section of the sample population. Total percentage exceeded 100 as multiple options were mentioned for single question (Table 1). The common health problems of study population were analysed. The results showed that majority of the sample population suffered from headache (36%), dyspnoea (25%) and leg pain (23%). 17.8% of the female sample had gas trouble as their health difficulty. Other common health difficulties were cold and fever (16%), cough (8.8%), stomach ache (5.6%), throat pain (6%) and indigestion (2%). Total percentage exceeded 100 as multiple options were mentioned for a single question (Table 2).

Table 1: Sources of health information

Sources of information	Frequency	Percent
Magazines	104	41.6
Advertisements	43	17.2
Family doctor	34	13.6
Internet	16	6.4
Friends	61	24.4
Health workers	83	33.2
Others	15	6

Table 2: Common health problems

Problems	Frequency	Percent
Head ache	90	36
Dyspnoea	23	25
Leg pain	59	23
Gas trouble	32	17.8
Indigestion	5	2
Cold and fever	40	16
Stomach ache	14	5.6
Sore throat	15	6
Cough	22	8.8

Table 3: Drugs most commonly self medicated

Drugs	Frequency	Percent
Analgesics	46	33.4
Antipyretics	38	27.5
Cough remedies	23	16.7
Antacids	14	10.2
Anti-allergics	6	4.3
Antibiotics	5	3.6
Anti fungal	2	1.4
Anti-asthmatic	4	2.9

Table 4: Common medicines stocked in household

Medicines	Frequency	Percent
Analgesics	127	50.8
Antipyretics	139	55.6
Cough remedies	44	17.6
Antacids	50	2
Sleeping aids	2	0.8
Others	6	2.4

The results for the survey of what type of drugs are most commonly self medicated showed that analgesics (33.4%) and antipyretics (27.5%) were the most frequently self medicated drugs within 6 months recall period. 16.7% total sample population used cough remedies for self medication and 10.2% self medicated with antacids. Anti-allergics (4.3%), antibiotics (3.6%), anti-asthmatics (2.9%) and anti-fungals (1.4%) were other commonly self medicated drugs (Table 3). Among them paracetamol (44.2%), diclofenac(10.1%), vicks action(12%), chlorpheniramine maleate(3.8%) and gelusil (7.8%) were most commonly self medicated. Analysis of common medicines stocked in household showed that antipyretics (55.6%) and analgesics (50.8%) were the most common medications stored in the common household. Cough remedies account for about 17.6%, antacids (2%) of the total stored medicines. Sleeping aids were stored only by 0.8% and other medications constituted the rest (2.4%). Total percentage exceeded 100 as multiple options were mentioned for a single question (Table 4). The survey results showed that the old prescription was mainly misused by the people for self medication. It accounted for 58.4% of the source. Other important sources were medical stores (27.2%) and friends (10%). Only a very minority (4.4%) relied on advertisements as a source of self medication. The analysis of the factors that influence the choice of OTC medicines revealed that, for 49.2% of the sample population, old prescription influenced their selection of OTC medications. Previous experience was another major trigger for about 36.8% of sample population. Pharmacists (6%), friends and relatives (5.2%) and television (2.8%) also influenced the choice of the OTC medicines. Regarding with label compliance, majority of the sample population (52%) always read the label before taking the medication and 29.2% often followed the label. 14% of the total population rarely followed the label and only a minor proportion (0.8%) never complied with the label of a medication. Regarding with the compliance to treatment, 60% of the total sample population always complied with the treatment regimen prescribed by the physician. 34.4% of population often followed the advice and 4.4% rarely followed the advice of the doctor. Minor proportion (1.2%) never complied with the prescriber's advice. Regarding with the analysis of self medication awareness among the study population and their general opinion about OTC medications showed that about 37.6% of population was of the opinion that these OTC medications are bad for health. 34.8% believed that OTC drugs are helpful till visit to a doctor. 36 out of the total population (14.4%) reported that these products as unnecessary and 8.4% were aware that it destroys immune system. Only a small proportion of 4.8% claimed it as a necessary medicine. Out of the total sample population, 51.2% reported that the OTC medications are unsafe for use. Rests of the sample (48.8%) were of the opinion that these drugs are safe for use. The majority of total sample (72.4%) was aware of the fact that the OTC products were abused widely. Rest (27.6%) reported that they were not abused. 138 out of the 250 respondents (55.2%) had taken some form of self medication during six months preceding the study. Rest of the sample, 112 candidates (44.8%) didn't self medicate within six months

Table 5: Prevalence of self medication based on age group

Age group	Self medication			
	No		Yes	
	Count	%	Count	%
15-34	40	39.2	62	60.8
35-49	72	48.6	76	51.4

P value > 0.05

Table 6: Prevalence of self medication based on educational status

Education	Self medication			
	No		Yes	
	Count	%	Count	%
Primary	11	57.9	8	42.1
High school	64	45.4	77	54.6
Professional/degree	37	41.1	53	58.9

P value > 0.05

Table 7: Prevalence of self medication based on income

Income group	Self medication			
	No		Yes	
	Count	%	Count	%
Below 1000	45	48.4	48	51.6
1001-7000	35	43.8	45	56.3
Above 7000	31	41.3	44	58.7

P value > 0.05

Table 8: Prevalence of self medication based on occupation

Occupation	Self medication			
	No		Yes	
	Count	%	Count	%
Office/professional	25	43.1	33	56.9
Student	18	42.9	24	57.1
House wife	50	47.6	55	52.4
Other workers	19	42.2	26	57.8

P value > 0.05

recall period. A higher proportion of respondents aged between 15-34 years of age were found to be engaged in self medication when compared to those between 35-49 years. The increase was not found to be statistically significant (Table 5). Proportion of respondents with higher education (professional or degree qualification) had used self medication more (58.9%) when compared with those educated up to high school (54.6%). Subjects with primary or lower education status were found to have lesser self medication practice (42.1%). Though the result was insignificant, the self medication was found to be greater with population having higher educational status (Table 6). Analysis based on the monthly income showed that 51.6% of low income population (i.e., below 1000 rupees) showed self medication practice whereas 56.3% middle income population (1001-7000 Rupees) and 58.7% of high income population (Above 7000 Rupees) were engaged in self medication. The result was found to be statistically insignificant (Table 7). Self medication was found to be less among house wives (52.4%) when compared with office workers and professionals (56.9%). Proportion of students and other working classes who self medicate was found to be 57.1% and 57.8% respectively. The statistical

analysis shows no significant association between occupation and self medication practices (Table 8). No significant association was observed in the proportion of respondents according to place of residence and their self medication practices. 55.5% of urban population had used self medication whereas 54.7% of rural population were found self medicating (Table 9). No significant statistical association was found between the proportion of respondents practicing self medication and their marital status. A higher percentage (56.3%) of unmarried were found to self medicate more when compared to married women (54.7%) (Table 10).

Table 9: Prevalence of self medication based on place of residence

Place	Self medication			
	No		Yes	
	Count	%	Count	%
Urban	60	44.4	75	55.5
Rural	52	45.2	45	54.7

P value > 0.05

Table 10: Prevalence of self medication based on marital status

Marital status	Self medication			
	No		Yes	
	Count	%	Count	%
Married	77	45.3	93	54.7
Unmarried	35	43.8	45	56.3

P value > 0.05

4. DISCUSSION

The present study was aimed to assess the self medication practices among women of reproductive age group. The data was collected from 250 women within the age group of 15-49 years of age. The study was conducted among the population of Sreekariyam, situated in Thiruvananthapuram district, Kerala.

Regarding with the base line data about the sample subjects, majority (59.2%) of selected sample population were within the age group of 35-49 years. 135 out of 250 respondents were residing in urban area while the rest were residing in villages. Among the study population, 68% were married women and 25.2% unmarried. In the selected subjects, 29.6% had education up to high school level and 53.6% up to degree level. 7.6% studied only up to primary level, 26.8% were graduates and rest 9.2% were professionals. None were illiterate. This was due to the high literacy rate in Kerala. Majority of the population were house wives (42%) and students constituted 16.8%. Professionals and office workers were 8.8% and 14.4% respectively. Rest were other workers. Most of the study population (37.2%) belonged to low income category, 32% to middle income and the rest were high income group. Study reveals that 138 out of total 250 respondents had taken some form of self medication during six months preceding the study. These figures suggested that more than half of the population was engaged in unsupervised self medication in six month period. Health magazines were found to be the major source on which majority relied for the information about health. Due to the high literacy rate

and low cost, magazines are easily accessible and hence may be more reliable to all groups. Health workers are also good source of information. Male and female health workers routinely visited house once in every month at primary health centre and sub centre level at the study area. Moreover medical and public health institutions are more, which will provide health information to the general public. About 24.4% subjects depended on their friends and relatives for health information. They may be able to provide information based on their knowledge and past experiences. Study reveals that internet and advertisements are considered as a source of information only by a minority section of the population. Family doctor is the health advisor for 13.6% population. Headache (36%), dyspnoea (25%) and leg pain (23%) were the most common acute symptoms for which the women of reproductive age group for which they seek self medication. Gas trouble was another common problem experienced by the subjects. Fever and cold, cough, stomach ache, sore throat and indigestion were the other reasons for which population commonly self medicate. As per the study the most common medicines stocked in household include analgesics and antipyretics. Cough remedies were also stocked by minor proportions. Stocking of medicines encourage its use as self medication for future ailments. Same symptom may be repeated for different diseases and hence the use of the stocked medicines may mask the underlying conditions. Health and condition of the patient may not be the same always which may result in many adverse outcomes. Study indicates that the factor which mostly influenced the choice of OTC drugs was doctor, which indicates that most of the population commonly relies on older prescriptions prescribed by the physician for further ailments. Previous experience was found to be another important factor influencing the choice. With the increasing availability of potent medications without prescription definitely tend to harm the society. Regarding with compliance to the treatment most of the respondents reported that they always or often comply with the prescription. A very minor proportion never follows the prescriber's advice. The high literacy rate of Kerala may be a confounding factor influencing such a high rate of compliance. Regarding with the label compliance, over 80% of the sample population reported that they always or often read the label on OTC products. The literate women fear of further complications due to non compliance. About 20% rarely or never followed the label. This may be due to an increase in people's confidence in relation to self treatment. Analgesics and antipyretics were the drugs most commonly used for self medication within 6 months recall period. Among them Paracetamol was the most widely used drug. Diclofenac (Voveran) was the next common drug to be self medicated. Cough syrups were the next class of drugs to be self medicated followed by antacids. Among antacids, Gelusil was widely used for self medication. Other drugs self medicated to lesser extend included anti-allergics, anti-asthmatics, antibiotics and anti-fungals. When asked about their general opinion about OTC products, most of the population replied that these medications are bad for health and are intended to be helpful till the visit to a doctor. 14.4% believe that these

drugs are totally unnecessary and less than 10% were aware of the fact that it destroys the immune system. Only a very small proportion (2.8%) claims it to be necessary. Out of the total sample more than half are of the opinion that these medications are unsafe for use. About three-fourth of the total sample were aware of the fact that the OTC medications are widely abused. These reports suggested that, Kerala noted for their high rate of female literacy may be having good awareness about the harms of self medication practice. Yet the practice continues and the reason sought to be evaluated. The analysis of self medication prevalence in association with socio-demographic variables showed that a higher proportion of females aged below 35 years of age had used self medication compared to the other group. The greater prevalence of self medication among the younger generation may be due to their better educational level and increased awareness about the drugs. Although found to be statistically insignificant, proportion of respondents with higher education i.e., with professional or degree qualification were found to self medicate more when compared to other classes. The proportion with primary or lower education status had comparatively lesser self medication practice which points out that self medication practice may increase as the education status increases. High income population was found to be more engaged with self medication. This may be due to the reason that these busy sections of the society do not spare time to consult a medical practitioner for minor ailments. They may tend to look for fast symptomatic relief with readily available OTC products. Irrespective of their occupation all the groups had self medication practice. Proportion of students and other working classes were found to self medicate more compared to house wives. No statistically significant association was found between the place of residence and the prevalence of self medication. This may be because the rural study area was in close proximity with the Thiruvananthapuram city. Hence the population may not be having true village characters as their knowledge and awareness level may be influenced by the literate urban population nearby. Moreover, majority of the population are literate and hence a comparable difference may not exist between the urban and rural population. Marital status was found to have no significant association with the prevalence of self medication.

5. CONCLUSION

The present study revealed that undesirable self medication practice was higher in the study population and the prevalence was found to be 55.2% during six months recall period. Health magazines and health workers were found to be important sources of health information relied by the majority of sample population. The most common indications for self medication were to relieve symptoms of head ache, dyspnoea and leg pain. Analgesics and antipyretics were observed to be the most common drugs used for self medication. Among them paracetamol was the most commonly self medicated drug. Primary factors which influenced the choice of OTC drugs were doctor and previous experience. Common medicines stocked in the household which encouraged self medication were

observed to be antipyretics and analgesics. The study showed that old prescription was the most important source of self medication. Majority of the total population reported that they always or often read the label of OTC products before use. Most of the respondents showed good compliance with the prescription. The respondent's knowledge about appropriate self medication, benefits and risks were found to be good. A statistically insignificant increased prevalence of self medication observed with younger age groups. Proportion of subjects with higher education were found to self medicate more compared to other classes, although it was statistically insignificant. Study revealed an increase in self medication with increased income. Occupation, place of residence and marital status were found to have no significant influence on the prevalence of self medication. However if the sample size was increased, the results might have been more precise. Chance of biased information, Lack of cooperation from the respondents and the lack of experience of researcher also influenced the study. But the study clearly implicates the necessity for educating the women of reproductive age group about the self medication hazards and the dangerous side effects associated with it. From this study it is clear a better communication between general practitioners and community pharmacists are required to ensure that the patients get the best possible advice, both on diseases from the doctors and on medication from the pharmacists. The study indicates that the national drug policy and essential drug list will be useless unless accompanied by intensive efforts to improve the education and by implementing specific regulatory requirements for the use of OTC drugs. It also shows that younger people, students and other educated classes should be the primary target population for public health education programs for improving the quality of self medication and educational campaigns and advertisements are also necessary to alert the people about the use of many medications in the market.

Though the study population was educated and having good awareness with excellent health care facilities, the self medication practice was found to be prevalent in the study area. The results of the study emphasize the need for comprehensive measures including information, training, legislation and education at all levels to rationalize the drug therapy. A similar study with larger sample size can be done to detect the reasons for the self medication and to consider other reasons for the associations. Pharmacy based epidemiological studies of OTC medicines need to be carried out on a large scale as a detailed study.

REFERENCES

- [1] Shankar, PR., Partha, P., Shenoy, N., Self medication and non doctor prescription practices in Pokhara valley, Western Nepal: a questionnaire-based study. *BMC Family Practice*. 2002, 3, 7, Available from <http://www.biomedcentral.com/47-2296/3/7>
- [2] World Self Medication Industry declaration. Available from URL <http://www.wsmi.org/declaration.htm>
- [3] World Medical Association. Statement on Self Medication. Available from URL http://www.chpa-info.org/issues/WMA_SelfMedication.aspx
- [4] Responsible self care and self medication. A world wide review of consumer surveys. World self Medication Industry. Available from URL www.wsmi.org/pdf/wsmibro3.pdf
- [5] Guidelines for regulatory assessment of medicinal products for use in self medication, WHO, Geneva 2000. Available from URL <http://archives.who.int/tbs/qual/s2218e.pdf>
- [6] Blenkinsopp, A., Bradley, C., Over the counter drugs: Patients, society & the increase in self medication *BMJ*. 1996, 312 (7031), 629-632
- [7] Wazaify, M., Shields, E., Hughes, CM., McElnay, JC., Societal perspectives on over-the-counter (OTC) medicines. *Family Practice*. 2005, 22, 170 -176.
- [8] Bradley, CP., Bond, C., Increasing the number of drugs available over the counter: arguments for and against. *Br J Gen Pract*. 1995, 45(399), 553 - 556.
- [9] Saradamma, RD., Higginbotham, N., Nichter, M., Social factors influencing the acquisition of antibiotics without prescription in Kerala state, South India. *Soc Sci Med*. 2000, 50(6), 891 - 903.
- [10] McKenna, L., McIntyre, M., What over the counter preparations are pregnant women taking? A literature review. *J Adv Nurs*. 2006, 56(6), 636 - 645.